Building Resilient Infrastructure and Communities (BRIC) and Community Lifelines

July 22, 2020

Photo of Memphis, Tennessee

Photo of Miami, Florida

Agenda

- **Welcome:**
  Kayed Lakhia, FEMA

- **Defining Community Lifelines:**
  Ben Cabana, FEMA

- **Where Lifelines Fit into BRIC:**
  Camille Crain, FEMA

Kayed Lakhia

Director, Hazard Mitigation Division, FEMA

Defining Community Lifelines

Ben Cabana, FEMA

Incorporating Community Lifelines into Response

FEMA developed the community lifelines construct to increase effectiveness in disaster operations and better position the Agency to respond to catastrophic incidents. The construct allows emergency managers to:

- Characterize the incident and identify the root causes of priority issue areas
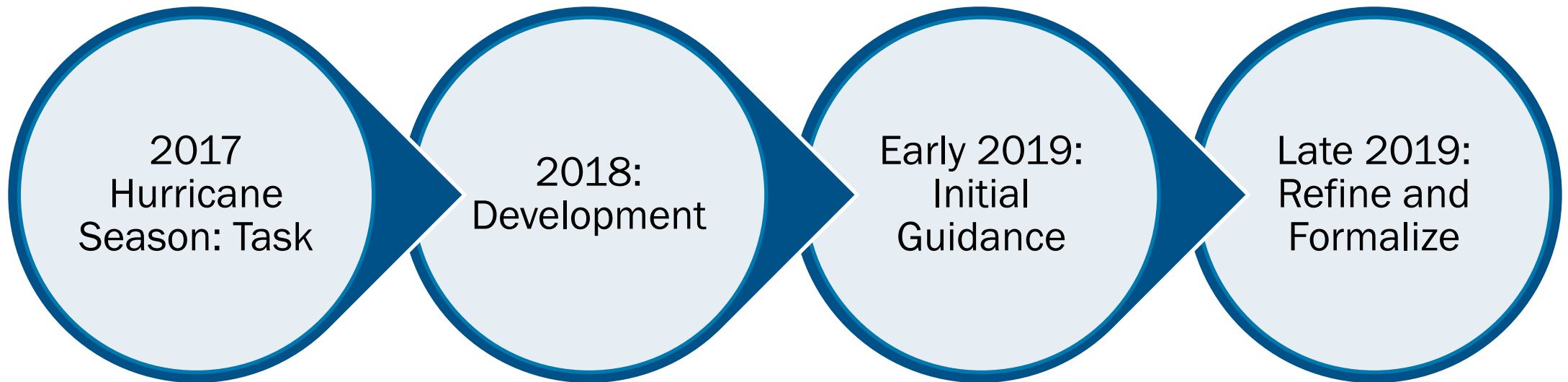- Distinguish the highest priorities and most complex issues from other incident information

WHY A LIFELINES CONSTRUCT?

Lifelines provide an outcome-based, survivor-centric frame of reference that assists responders with the following:

- Rapidly determining the scale and complexity of a disaster
- Identifying the severity, root causes, and interdependencies of impacts to basic, critical lifesaving and life-sustaining services within impacted areas
- Developing operational priorities and objectives that focus response efforts on the delivery of these services by the most effective means available
- Communicating disaster-related information across all levels of public, private, and non-profit sectors using a commonly understood, plain language lexicon
- Guiding response operations to support and facilitate integration across mission areas

Evolution of the Community Lifelines Construct

Developed and refined over the past two years, gaining significant momentum in the emergency management community

2017 Hurricane Season: Task

- After Action Report identified need to create a new operational prioritization and response tool

2018: Development

- Initial concept development
- First implemented for Hurricanes Florence, Michael, Pacific Typhoons

Early 2019: Initial Guidance

- Toolkit 1.0 released in February
- Validation in Shaken Fury, Interagency and FEMA-wide comments

Late 2019: Refine and Formalize

- *National Response Framework* 4th edition introduces lifelines in national policy
- Toolkit 2.0 and Incident Stabilization Guide released

Toolkit 2.0

The 4th Edition of the *National Response Framework* formalizes the lifelines construct in national level response doctrine

- Toolkit Version 2.0 reflects refinements and improvements to the lifelines construct based on stakeholder feedback and lessons learned from incidents and exercises
- Major changes:

  - Refined components and subcomponents

  - Developed stabilization target examples

  - Revised and expanded planning content, consistent with Regional All-Hazards Plan revisions

FEMA National Response Framework, 4th Edition:
https://www.fema.gov/media-library/assets/documents/117791

FEMA Community Lifelines Implementation Toolkit:
https://www.fema.gov/media-library/assets/documents/177222

Community Lifelines Defined

A lifeline enables the continuous operation of <u>critical</u> government and business functions and is <u>essential to human health and safety or economic security</u>

- The most fundamental services in the community that, when stabilized, enable all other aspects of society to function

- The integrated network of assets, services, and capabilities that are used day-to-day to support the recurring needs of the community

- When disrupted, decisive intervention (e.g., rapid service re-establishment or employment of contingency response solutions) is required to stabilize the incident
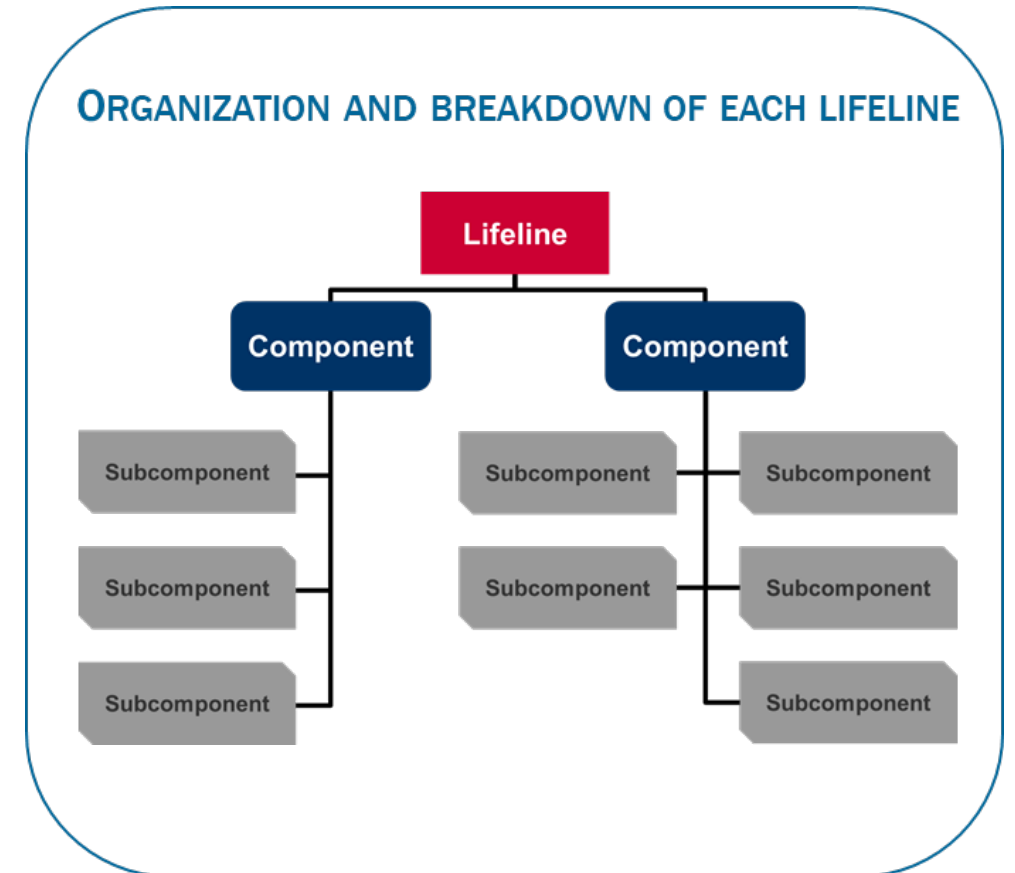
Safety and Security

Food, Water, Shelter

Health and Medical

Energy (Power & Fuel)

Communications

Transportation

Hazardous Materials

Lifelines, Core Capabilities, ESFs

The interrelationship of Emergency Support Functions (ESF), Core Capabilities, and lifelines can be thought of in terms of means, ways, and ends

- **Means:** ESFs and other organizing bodies—the means—are the way we organize across departments and agencies, community organizations, and industries to enhance coordination and integration to deliver the Response Core Capabilities.

- **Ways:** Response Core Capabilities describe the grouping of response actions—the ways—that can be taken to stabilize and re-establish the lifelines. FEMA executes Lines of Effort (LOE) to operationalize the Core Capabilities (the ways) for response and recovery planning and operations.

- **Ends:** Lifelines describe the critical services within a community that must be stabilized or re-established—the ends—to alleviate threats to life and property.

Deconstructing Community Lifelines

- Multiple components and subcomponents help define the services for that lifeline

  - Components – the general scope of services for a lifeline

  - Subcomponents – enabling functions for the delivery of services to a community

ORGANIZATION AND BREAKDOWN OF EACH LIFELINE

Community Lifeline Components

Multiple components and subcomponents establish the parameters of the lifeline

Safety & Security	Food, Water, Shelter	Health & Medical	Energy (Power & Fuel)	Communications	Transportation	Hazardous Material
Law Enforcement/ Security	Food	Medical Care	Power (Grid)	Infrastructure	Highway/Roadway	Facilities
Fire Services	Water	Patient Movement	Fuel	Alerts, Warnings, & Messages	Mass Transit	HAZMAT, Pollutants, Contaminants
Search & Rescue	Shelter	Public Health		911 and Dispatch	Railway	
Government Services	Agriculture	Fatality Management		Responder Communications	Aviation	
Community Safety		Medical Supply Chain		Finance	Maritime	

FEMA's Implementation of Community Lifelines

FEMA incorporates community lifelines into its planning and reporting products

Planning products include:

- All Hazards Plans

- Information Analysis Brief

- Incident Action Plan

- Incident Approach

- National/Regional Support Plan

Reporting products include:

- Senior Leadership Brief / SitReps

- Daily Operations Brief

- SPOT Reports

Evolution of the Community Lifelines Concept

While Toolkit 2.0 still focuses on the Response Mission Area, FEMA continues to examine the application of community lifelines across the disaster lifecycle and all five mission areas

Driving Lifeline Resilience through:

- **Preparedness:** Reorganizing threat & hazard identification and risk assessments by lifeline

- **Protection:** Assessing lifeline infrastructure vulnerability

- **Recovery:** Transitioning stable lifelines to recovery outcomes

- **Mitigation:** Reducing lifeline vulnerability through mitigation activities

The Lifelines Toolkit will continue to be refined as the construct evolves

Community Lifelines and Mitigation

- Lifelines were built by Response to highlight the priority area of focus for initial incident stabilization

- However, lifelines exist steady-state, and enable all other aspects of society

- How can lifelines be used to prioritize mitigation investments?

  - Reduce likelihood that lifelines will fail as a result of an incident

  - Understand risk to and vulnerability of lifelines

Resilient lifelines can help build resilient communities!

Safety and Security | Food, Water, Shelter | Health and Medical | Energy (Power & Fuel) | Communications | Transportation | Hazardous Materials

Where Lifelines Fit into BRIC

Camille Crain, FEMA

BRIC and Community Lifelines

The goals and objectives of FEMA's Strategic Plan promote using mitigation to reduce risk to lifelines before a disaster and to quickly stabilize a community after disaster by preventing cascading impacts

BRIC mitigation grants can go toward projects which mitigate these structures, facilities, and systems

Lifeline-focused mitigation projects could involve a wide variety of public, private, and non-profit organizations

Safety and Security

Food, Water, Shelter

Health and Medical

Energy (Power & Fuel)

Communications

Transportation

Hazardous Materials

Hazard Mitigation Assistance for Community Lifelines

National summary of funding to date through July 16, 2020

Food, Water, Sheltering
Funded
$5,695,957,175

Energy
Funded
$1,509,480,137

Health and Medical
Funded
$810,653,585

Safety and Security
Funded
$3,484,357,306

Transportation
Funded
$1,147,613,095

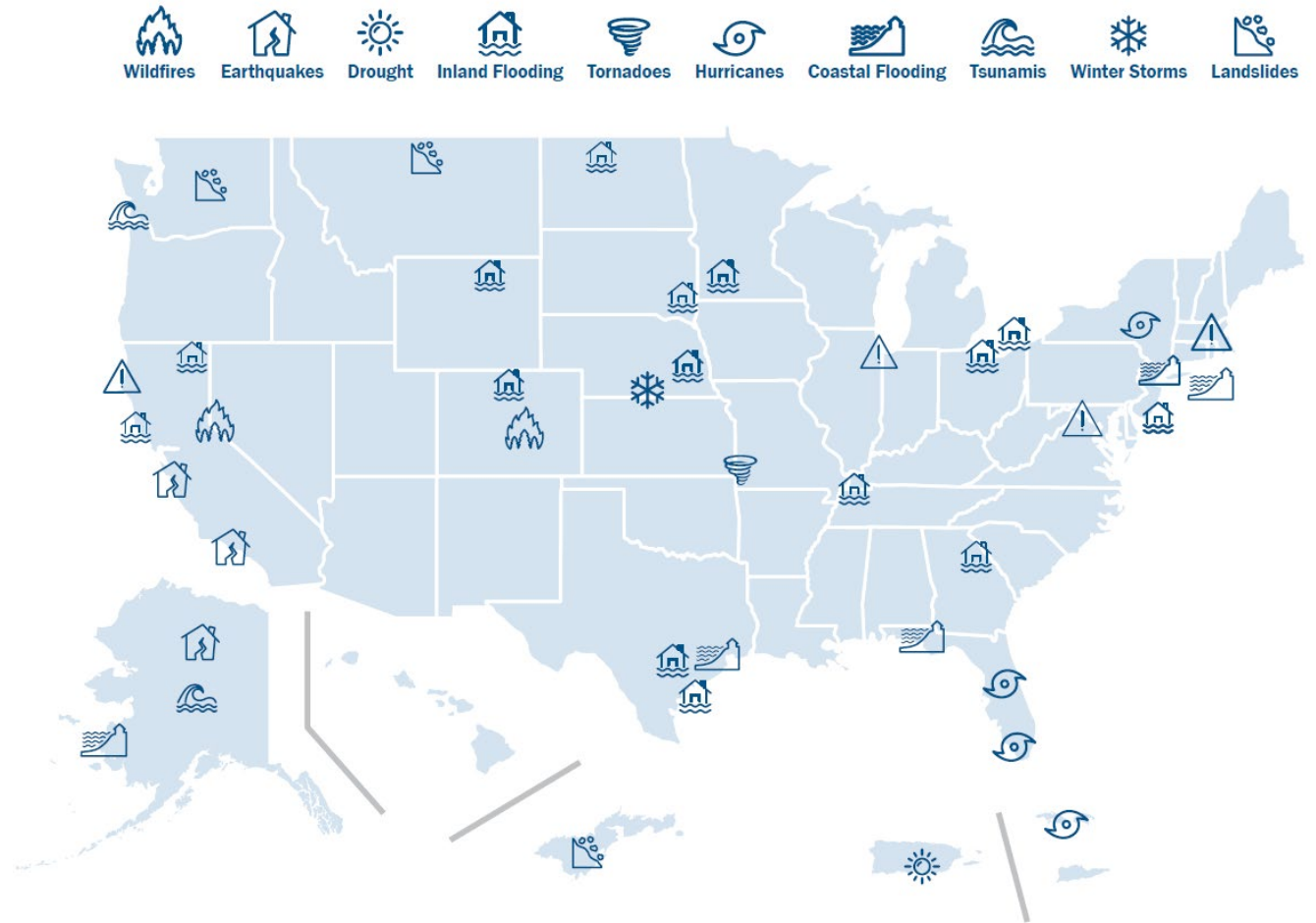**Communications**
Funded
$203,547,640

Hazardous Material
Funded
$349,737,307

Mitigation Action Portfolio

- Showcases innovative hazard mitigation projects

- Addresses variety of hazard types

- Highlights mitigation projects for different types of community lifelines

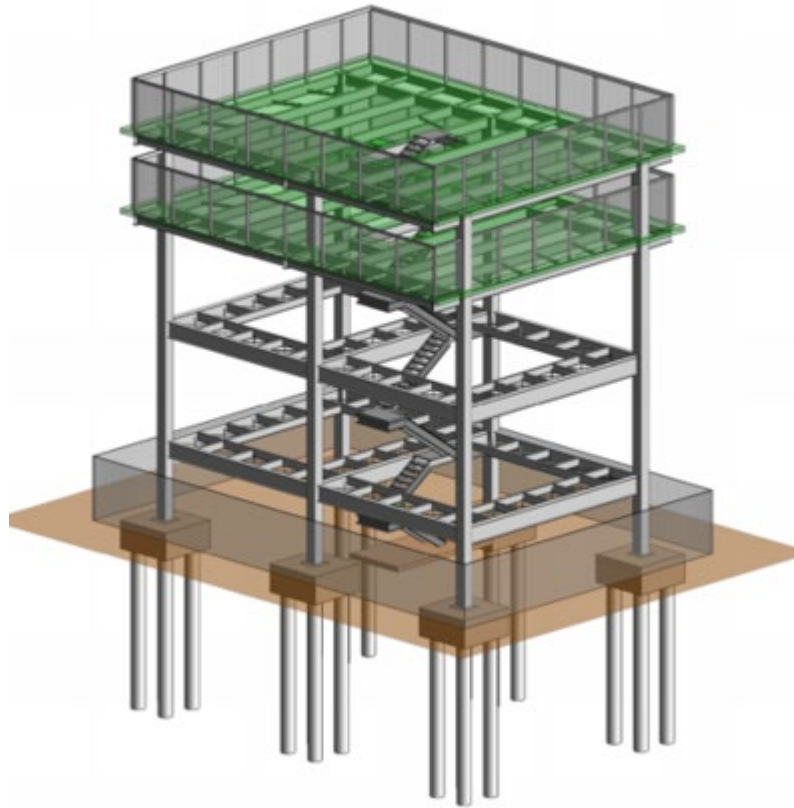Wildfires Earthquakes Drought Inland Flooding Tornadoes Hurricanes Coastal Flooding Tsunamis Winter Storms Landslides

Example Project: Safety and Security

Exploration Green Stormwater Park, Houston, TX

Stormwater Management Project

Exploration Green Stormwater Park, Houston, TX

Example Project:
Food, Water, and Shelter

Tsunami Evacuation

Shoalwater Bay Tribe Tsunami Evacuation Structure, Tokeland, WA

Proposed view of the Shoalwater Bay Indian Tribe vertical tsunami evacuation shelter

Example Project: Health and Medical

Nicklaus Children's Hospital, Miami, FL

Hurricane Retrofits for Critical Infrastructure

Nicklaus Children's Hospital, Miami, FL

Example Project: Energy

Microgrid Installation

Blue Lake Rancheria Tribe Microgrid, Humboldt Co., CA
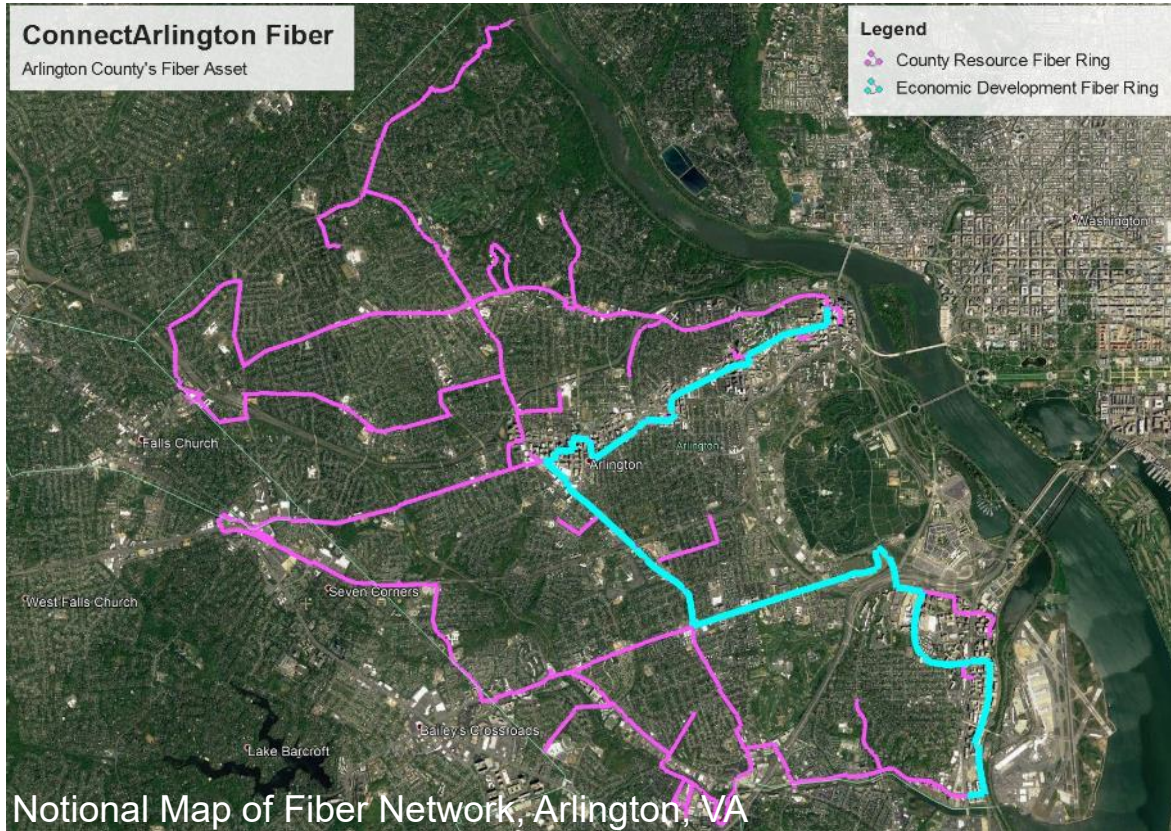
Blue Lake Rancheria Tribe Microgrid, Humboldt Bay, CA

Example Project: Communications

Notional Map of Fiber Network, Arlington, VA

Communication Infrastructure Upgrades

ConnectArlington, Arlington County, VA

Example Project: Transportation

Landslide mitigation retention wall in WA

Landslide Mitigation Projects

Washington State Department of Transportation (DOT)

Example Project: Hazardous Materials

Statewide Resilience Projects

NY Rising Community Reconstruction Program

https://stormrecovery.ny.gov/community-reconstruction-program

BRIC Stakeholder Engagement Sessions

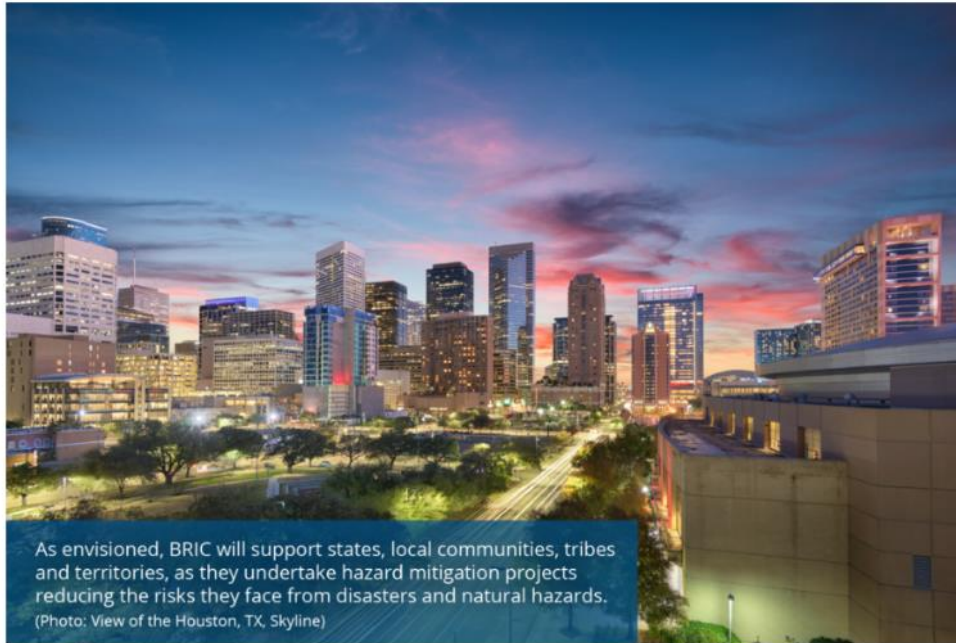- BRIC Engagement Sessions – all about the BRIC program (July 2020)

    Recordings available at:
    https://www.youtube.com/playlist?list=PL720Kw_OojIKKwDJQpkCLJ-6v4I_ndNEJ

    - July 1: Introduction to BRIC

    - July 8: Meaning of the BRIC Name

    - July 15: BRIC and Building Codes

    - July 22: BRIC and Community Lifelines

    - July 29: BRIC and Nature-based Solutions

- BRIC NOFO Webinars – will occur after NOFO is released (August - September 2020)

FEMA Resources

Building Resilient Infrastructure and Communities

As envisioned, BRIC will support states, local communities, tribes and territories, as they undertake hazard mitigation projects reducing the risks they face from disasters and natural hazards. (Photo: View of the Houston, TX, Skyline)

This page provides general information about a new pre-disaster hazard mitigation program.

https://www.fema.gov/bric

Sign up for BRIC and HMA Updates:
https://www.fema.gov/hazard-mitigation-assistance

Other Resources:

- Community Lifelines Implementation Toolkit: https://www.fema.gov/media-library/assets/documents/177222

- Benefit Cost Analysis (BCA): www.fema.gov/benefit-cost-analysis

- Hazard Mitigation Planning: https://www.fema.gov/hazard-mitigation-planning

- ISO Mitigation – Building Codes https://www.isomitigation.com/bcegs/

Thank you!

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fema.gov/bric